

Stored Grain Management

Once the grain has been harvested, preparations should have been made to properly store it in the farm bins. Improper storage techniques will allow many problems to develop in the grain during the storage period. There are several methods which should be employed to prevent insect damage to the grain while it is being stored.

BIN PREPARATION PRIOR TO STORAGE

1. Sanitation of the bin area should include removal of weeds and old grain residue around the bin area.
2. Sanitation of the bin should include removal of old grain residue and trash from within the bin. Clean the walls of any crusted material and old grain.
3. Repair any cracks in the bin to prevent rodent and insect entry.
4. Clean air ducts, aeration fan ducts, etc.
5. Repair outside walls to prevent leakage of water into bin.

APPLY GRAIN PROTECTANT DURING BINNING OF GRAIN

1. Apply a grain protectant to the grain with a drip applicator designed to supply a specified amount per 1000 bushels of grain. Flow valves can be purchased from commercial supply houses or locally from pump and supply houses.
2. Situate applicator near auger to apply liquid insecticide to grain as it goes into the bin. Use only amount of insecticide for each day. Most insecticides cannot be held mixed in the tank for more than two days. This is especially true of Actellic 5E.
3. Prior to treating the grain and before binning, the bin should be treated inside with an appropriate insecticide. Treat the walls, floors, outside doors and around the outside of the bin at the base.
4. Once the grain has been treated, cap the surface with the insecticide if it is labelled for that particular use. Each time the grain surface is disturbed, it should be retreated. Do this only if it is labelled for that use.
5. Keep grain aerated during storage. Turn grain if possible.
6. Never store old grain and new grain together.
7. Sample grain periodically for insects and other problems (moisture, temperature).
8. Check grain temperature. Probe mass with temperature probes to determine if any hot spots exist.
9. Keep grain mass cool during winter to reduce insect problems. Insects do not reproduce at cooler temperatures (40°F). Also, dry grain is not conducive to insect development.
10. Use monitoring devices if available to monitor insect pests. Pheromone traps are available for determining insect populations in grain. They can be purchased from several companies. Available upon request.

New Alert for fumigators: The EPA will require all fumigation projects to have in place a Fumigation Plan prior to fumigating any structures or grain bins in the future. These plans must be drafted and in final form before fumigating. It is assumed that the State Agricultural Department will be the Agency that will enforce these new regulations.

Two new insecticides that can be used on stored grain are coming on line. Both have received Approval by EPA. I have a copy of the Tempo 2 label which allows this product to be used but Storcide has not received final approval due to a change in one paragraph of the original label. It should be available for use before wheat harvest.

Stored Grain Insect Control

Insect	Insecticide	Rate/1000 bu.*	Crop	Remarks
rice weevil meal worms grain moths flour beetles grain beetles	Actellic 5E	9.2 - 12.3 ozs.	milo, corn	Use in 5 gallons per 1071 bushels.
	Reldan 4E	9 ozs. 6.2 ozs. 8.6 ozs. 10.7 ozs. 11.7 ozs.	barley oats rice milo wheat	Use 1-5 gallons water of final spray volume. Use 6 1/2 gallons of finished spray volume for pretreatment of bin.
All Insects (farm bins)	Aluminum phosphide (Phostoxin)	450 - 900 pellets 90 - 180 tablets *Treatment is by volume only and not by number of bushels.	milo, corn, wheat, oats, rye, soybeans	Use only by volume for treatment. Do not use by number of bushels to treat. Read the label to understand how this must be applied. A fumigation plan must be in force before fumigating any bins. This is a new regulation by EPA.
Empty grain bin	chloropicrin (Larvicide, Chloropic)	1 lb./1000 cu. ft.	empty bin	not available in quart sizes. Only in 200 lb. Containers.
Residual Treatments prior to storage*				
	Tempo 20WP**	1 - 2 packets per 1000 sq. ft.		See Label.

* Spray walls, floors and around exterior at base of bin.

** Tempo used on grain. Methoxychlor no longer has a label for residual treatment.

Precautionary Statement

To protect people and the environment, pesticides should be used safely.
This is everyone's responsibility, especially the user.
Read and follow label directions carefully before you mix, apply store or dispose of a pesticide.
According to laws regulating pesticides, they must be used only as directed by the label.
Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticide regulations are continuously reviewed.
Should registration or a recommended pesticide be canceled, it would no longer be recommended by The University of Tennessee.
Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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The University of Tennessee Institute of Agriculture, U.S. Department of Agriculture,
and county governments cooperating in furtherance of Acts of May 8 and June 30, 1914.

Agricultural Extension Service Charles L. Norman, Dean